# JAVA Solution - 2

## Program 1

```java
import java.util.Scanner;
class pro1 {
    public static void main(String args[]) {
        //Create objects
        Scanner input = new Scanner(System.in);
        //Declare variables
        int[] arr = new int[10];
        int max = 0;
        int min = 0;
        //To take 10 num as input
        System.out.println("Enter 10 numbers:- ");
        for (int i = 0; i < arr.length; i++) {
            arr[i] = input.nextInt();
        }
        //To compare 10 numbers
        for(int i = 0; i < arr.length; i++) {
            //To find max value
            if(arr[i] > max) {
                max = arr[i];
            }
            //To find min value
            if(min == 0) {
                min = arr[i];
            }
            else if(arr[i] < min) {
                min = arr[i];
            }
        }
        //Print values
        System.out.print("Max value is... " + max);
        System.out.print("Min value is... " + min);
    }
}
```

## Program 2

```java
class pro2 {
    public static void main(String args[]) {
        Demo t = new Demo();
        t.name();
        t.name("My");
    }
}
//Create second class
class Demo {
    //Func 1
    void name() {
```

```java
        System.out.println("My name is polymorphism");
    }
    //Func 2
    void name(String str) {
        System.out.println(str + " name is polymorphism");
    }
}
```

## Program 3

```java
class pro3 {
    public static void main(String args[]) {
        constructor obj = new constructor();
        constructor obj1 = new constructor(obj);
    }
}
// Create second class to make constructor
class constructor {
    String message;
    constructor() {
        message = "Jay mataji bhaibandh dostar ne";
        System.out.println(message);
    }
    constructor(constructor obj) {
        message = obj.message;
        System.out.println(message);
    }
}
```

## Program 4

```java
class pro4 {
    public static void main(String args[]) {
        constructorOverloding obj = new constructorOverloding();
        constructorOverloding obj1 = new constructorOverloding("Jay mataji bhaibandh dostar
ne");
        constructorOverloding obj2 = new constructorOverloding("Java", "Jay mataji bhaibandh
dostar ne");
    }
}
class constructorOverloding {
    String message;
    constructorOverloding() {
        message = "Jay mataji bhaibandh dostar ne";
        System.out.println(message);
    }
    constructorOverloding(String str) {
        message = str;
        System.out.println(message);
    }
    constructorOverloding(String name, String str) {
        message = str;
```

```
        String naam = name;
        System.out.println(naam + " " + message);
    }
}
```

## Program 5
```
class pro5 {
    public static void main(String args[]) {
        info obj = new info("Ram", 23);
        info obj1 = new info("Sita", 22);
        obj.display();
        obj1.display();
    }
}
class info {
    int age;
    String name;
    info(String name, int age) {
        this.name = name;
        this.age = age;
    }
    void display() {
        System.out.println("Name is... " + name + " and age is... " + age);
    }
}
```

## Program 6
```
class pro6 {
    public static void main(String args[]) {
        Example obj = new Example();
        Example.func("William Gupta");
    }
}
class Example {
    static String name = "William Smith";
    static void func(String changeName) {
        name = changeName;
        System.out.println(name);
    }
}
```

## Program 8

```java
import java.util.Scanner;
class pro8 {
    public static void main(String args[]) {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter employee name:- ");
        String name = input.nextLine();
        System.out.print("Enter employee number:- ");
        int emp_no = input.nextInt();
        System.out.print("Enter employee basic salary:- ");
        int basic_salary = input.nextInt();
        employee obj = new employee(emp_no, name, basic_salary);
        obj.allowance();
        obj.process();
        obj.display();
    }
}
class employee {
    int emp_no, basic_salary;
    String name;
    double HRA, DA, PF, net_salary;
    employee(int emp_no, String name, int basic_salary) {
        this.emp_no = emp_no;
        this.name = name;
        this.basic_salary = basic_salary;
    }
    void allowance() {
        HRA = (basic_salary * 15) / 100;
        DA = (basic_salary * 80) / 100;
        PF = (basic_salary * 10) / 100;
    }
    void process() {
        net_salary = (basic_salary + HRA + DA) - PF;
    }
    void display() {
        System.out.println("*****************Employee Detail*****************");
        System.out.println("Employee name.... " + name);
        System.out.println("Employee id...... " + emp_no);
        System.out.println("Employee Basic... " + basic_salary);
        System.out.println("");
        System.out.println("HRA: " + HRA + " DA: " + DA + " PF: " + PF);
        System.out.println("Net salary is..." + net_salary);
    }
}
```

## Program 9

```java
import java.util.Scanner;
```

```java
class pro9 {
    public static void main(String args[]) {
        Student obj = new Student();
        obj.getData();
        obj.calculate();
        obj.display();
    }
}

class Student {
    static Scanner input = new Scanner(System.in);
    int rollNo, std, total=0;
    String name, dateOfBirth;
    int[] subject = new int[7];
    double per;
    void getData() {
        System.out.print("Enter your name:- ");
        name = input.nextLine();
        System.out.print("Enter Date of birth:- ");
        dateOfBirth = input.nextLine();
        System.out.print("Enter Roll no:- ");
        rollNo = input.nextInt();
        System.out.print("Enter standard:- ");
        std = input.nextInt();
        for(int i = 0; i < subject.length; i++){
            System.out.print("Enter " + (i + 1) + " Subject marks:- ");
            subject[i] = input.nextInt();
        }
    }
    void calculate() {
        for(int i = 0; i < subject.length; i++) {
            total = total + subject[i];
        }
        per = (total / subject.length);
    }
    void display() {
        System.out.println("*****************Result****************");
        System.out.println("Roll no :" + rollNo);
        System.out.println("Standard :" + std);
        System.out.println("Name :" + name);
        System.out.println("Date od birth :" + dateOfBirth);
        System.out.println("----------------------------------");
        for(int i = 0; i < subject.length; i++) {
            System.out.println("Subject " + (i + 1) + " marks: " + subject[i]);
        }
        System.out.println("----------------------------------");
        System.out.println("Total :" + total);
        System.out.println("Per :" + per);
    }

}
```

## Program 10

```java
import java.util.Scanner;
class pro10 {
    public static void main(String args[]) {
        Product obj = new Product();
        obj.list();
        obj.purchase();
        obj.bill();
    }
}
class Product {
    static Scanner input = new Scanner(System.in);
    int[] product_id = {1, 2, 3, 4, 5};
    int[] quantity = {10, 10, 10, 10, 10};
    String[] product_name = {"Milk", "Soda", "Maggi", "Park", "5 Star"};
    int[] price = {28, 10, 25, 20, 10};
    int index, no;
    double total;
    boolean found = false;
    void list() {
        System.out.println("product_id \t product_name \t price \t quantity");
        for(int i = 0; i < product_name.length; i++) {
            System.out.println(product_id[i] + "\t\t" + product_name[i] + "\t\t" + price[i] +
"\t\t" + quantity[i]);
        }
    }
    void purchase() {
        System.out.print("Enter product name:- ");
        String name = input.nextLine();
        System.out.print("Enter quantity:- ");
        no = input.nextInt();
        for (int i = 0; i < product_name.length; i++) {
            if (product_name[i].equalsIgnoreCase(name)) {
                found = true;
                index = i;
                break;
            }
        }
        if (found) {
            if(quantity[index] >= no) {
                quantity[index] -= no;
                total = price[index] * no;
            }
            else {
                System.out.println("Sorry! Only " + quantity[index] + " units available.");
            }
        }
        else {
            System.out.println("Sorry! We don't have " + name);
        }
    }
    void bill() {
        System.out.println("****************Bill*******************");
        System.out.println("Product name: " + product_name[index]);
```

```java
        System.out.println("Quantity: " + no);
        System.out.println("-----------------------------------");
        System.out.println("Total price: " + total);
    }
}
```

## Program 11

```java
import java.util.Scanner;
class pro11{
    public static void main(String args[]) {
        Result obj = new Result();
        obj.getStudent();
        obj.mark();
    }
}
class Student {
    String name;
    int id, total, no;
    void getStudent() {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter student name:- ");
        name = input.nextLine();
        System.out.print("Enter student id:- ");
        id = input.nextInt();
        System.out.print("Enter total mark:- ");
        total = input.nextInt();
        System.out.print("Enter no of subject:- ");
        no = input.nextInt();
    }
}
class Result extends Student {
    void mark() {
        System.out.println("Name: " + name + "\t Student id: " + id);
        System.out.println("Total: " + total + "\t Per: " + (total/no));
    }
}
```

## Program 12

```java
import java.util.Scanner;
class pro12 {
    public static void main(String[] args) {
        Result obj = new Result();
        obj.getno();
        obj.getmarks();
        obj.display();
    }
}
class Student {
    int rollno;
```

```java
    void getno() {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter Roll Number: ");
        rollno = input.nextInt();
    }
    void showno() {
        System.out.println("Roll Number: " + rollno);
    }
}
class Test extends Student {
    float sub1, sub2, sub3;
    void getmarks() {
        Scanner input = new Scanner(System.in);
        System.out.println("Enter marks for 3 subjects:");
        System.out.print("Subject 1: ");
        sub1 = input.nextFloat();
        System.out.print("Subject 2: ");
        sub2 = input.nextFloat();
        System.out.print("Subject 3: ");
        sub3 = input.nextFloat();
    }
    void putmarks() {
        System.out.println("Marks:");
        System.out.println("Subject 1: " + sub1);
        System.out.println("Subject 2: " + sub2);
        System.out.println("Subject 3: " + sub3);
    }
}
class Result extends Test {
    float total, avg;
    void display() {
        total = sub1 + sub2 + sub3;
        avg = total / 3;
        System.out.println("\n--- Student Marksheet ---");
        showno();
        putmarks();
        System.out.println("Total: " + total);
        System.out.println("Average: " + avg);
        if (avg >= 33)
            System.out.println("Status: Pass");
        else
            System.out.println("Status: Fail");
    }
}
```

# Program 13

```java
import java.util.Scanner;
class pro13 {
    public static void main(String[] args) {
        C obj = new C();
```

```java
            obj.getNum1();
            obj.getNum2();
            obj.getNum3();
            obj.findMax();
        }
}
class A {
    int num1;
    void getNum1() {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter first number: ");
        num1 = input.nextInt();
    }
}
class B extends A {
    int num2;
    void getNum2() {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter second number: ");
        num2 = input.nextInt();
    }
}
class C extends B {
    int num3;
    void getNum3() {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter third number: ");
        num3 = input.nextInt();
    }
    void findMax() {
        int max = num1;
        if (num2 > max) {
            max = num2;
        }
        if (num3 > max) {
            max = num3;
        }
        System.out.println("\nMaximum number is: " + max);
    }
}
```

## Program 14

```java
import java.util.Scanner;

public class pro14 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);

        Addition add = new Addition();
        Subtraction sub = new Subtraction();
        Multiplication mul = new Multiplication();
```

```java
        Division div = new Division();
        add.getInput(input);
        add.add();
        sub.getInput(input);
        sub.subtract();
        mul.getInput(input);
        mul.multiply()
        div.getInput(input);
        div.divide();
    }

class InputValues {
    double a, b;
    void getInput(Scanner input) {
        System.out.print("Enter first number: ");
        a = input.nextDouble();
        System.out.print("Enter second number: ");
        b = input.nextDouble();
    }
}
class Addition extends InputValues {
    void add() {
        double total = a + b;
        System.out.println("Addition: " + total);
    }
}
class Subtraction extends InputValues {
    void subtract() {
        double diff = a - b;
        System.out.println("Subtraction: " + diff);
    }
}
class Multiplication extends InputValues {
    void multiply() {
        double product = a * b;
        System.out.println("Multiplication: " + product);
    }
}
class Division extends InputValues {
    void divide() {
        if (b != 0) {
            double result = a / b;
            System.out.println("Division: " + result);
        } else {
            System.out.println("Division by zero is not allowed.");
        }
    }
}
```